

Claims

What is claimed is:

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1. A method for configuring multiple displays associated with a computing system, the method comprises the steps of:
 - a) receiving display preferences regarding at least one of the multiple displays;
 - 10 b) determining whether the display preferences can be fulfilled in observance of at least one of: configuration properties of the at least one of the multiple displays and configuration properties of the computing system; and
 - c) 15 when the display preferences can be fulfilled, configuring the computing system and the at least one of the multiple displays in accordance with the display preferences.
 2. The method of claim 1 further comprises receiving the display preferences from at least one of: a user interface of the computing system and an application running on the computing system.
 - 20 3. The method of claim 1, wherein the display preferences include at least one of:
 - i) displaying an image on more than one of the multiple displays;
 - ii) displaying separate images on each of the multiple displays;
 - iii) displaying a portion of the image on one of the multiple displays and displaying the image on another one of the multiple displays;
 - iv) 25 providing different refresh rates for at least two of the multiple displays;
 - v) providing different resolutions for at least two of the multiple displays;
 - vi) selecting a particular one of the multiple displays to display a particular type of image; and

5 4. The method of claim 1, wherein the configuration properties of the at least one of the multiple displays includes at least one of: limitations of the at least one of the multiple displays, and wherein the configuration properties of the computing system includes at least one of: limitations of the computing system and operational rules of the computing system.

when the display preferences cannot be fulfilled, determining whether a current configuration of the multiple displays to the computing system can be reconfigured such that the display preferences can be fulfilled while maintaining effective configuration of the current configuration; and

6. The method of claim 1 further comprises providing an denial message when the display preferences cannot be fulfilled.

8. The method of claim 7, wherein step (c) further comprises operably coupling the display controller to at least one of a plurality of screen memories, wherein each of the

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- 5 9. The method of claim 8, wherein step (c) further comprises operably coupling the display controller to at least one of a plurality of display drivers, wherein each of the plurality of display drivers writes the separate display data to the plurality of screen memories.
- 10 10. The method of claim 1, wherein step (c) further comprises operably coupling a first display controller of the computing system to a first display of the at least one of the multiple displays and operably coupling a second display controller of the computing system to a second display of the least one of the multiple displays.
- 15 11. The method of claim 10 further comprises operably coupling the first display controller to a third display of the at least one of the multiple displays.
12. The method of claim 1, wherein step (c) further comprises operably coupling a first display controller of the computing system to a first display of the at least one of the multiple displays, operably coupling a second display controller of the computing system to a second display of the at least one of the multiple displays, and operably coupling the first and second display controllers to a screen memory.
- 20 13. The method of claim 1 further comprises operably coupling at least two of the multiple displays to one of a plurality of screen memories.
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14. A video graphics processing circuit comprises:
- a plurality of display controllers;
- memory, wherein at least a portion of the memory is screen memory;
- coupling module operably coupled to the plurality of displays and the screen memory;
- and
- a coupling controller operably coupled to receive display preferences and to determine whether the display preferences can be fulfilled in observance of configuration properties, wherein, when the display preferences can be fulfilled, the coupling controller provides configuration requirements to the coupling module, wherein the coupling module, based on the configuration requirements, operably couples at least one of the plurality of display controllers with at least a portion of the screen memory and with at least one display, and wherein the at least one of the plurality of display controllers retrieves display data from the at least a portion of the screen memory and provides the display data to the at least one display.
15. The video graphics processing circuit of claim 14, wherein the screen memory comprises a plurality of screen memory portions, wherein each of the plurality of screen memory portions stores separate display data.
16. The video graphics processing circuit of claim 15 further comprises a plurality of display drivers, wherein, when coupled via the coupling module to one of the plurality of screen memory portions, a display driver of the plurality of display drivers writes the separate display data to the one of the plurality of screen memory portions.
17. The video graphics processing circuit of claim 16 further comprises a graphics engine operably coupled, via the coupling module, to at least one of the plurality of display controllers and at least one of the display drivers.

18. The video graphics processing circuit of claim 14 further comprises a user interface that is operably coupled to the coupling controller and to receive the display preferences from a user.

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19. The video graphics processing circuit of claim 14, wherein the memory further comprises properties memory that stores configuration properties of the plurality of display controllers and the at least one display, wherein the configuration properties include at least one of: limitations of the plurality of display controllers and the at least one display and operational rules of the plurality of display controllers and the at least one display.

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20. The video graphics processing circuit of claim 14, wherein the coupling controller provides reconfiguration requirements to the coupling module when the display preferences cannot be fulfilled but a current configuration of the plurality of display controllers to the at least one display can be reconfigured such that the display preferences can be fulfilled while maintaining effective configuration of the current configuration.

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21. The video graphics processing circuit of claim 14, wherein the configuration requirements cause the coupling module to operably coupling a first display controller of the plurality of display controllers to a first display of the at least one display and operably coupling a second display controller of the plurality of display controllers to a second display of the least one display.

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22. The video graphics processing circuit of claim 21, wherein the configuration requirements cause the coupling module to operably coupling the first display controller to a third display of the at least one display.

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23. The video graphics processing circuit of claim 14, wherein the configuration requirements cause the coupling module to operably coupling a first display controller of

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24. A video graphics processing circuit comprises:

a processing unit; and

5 memory operably coupled to the processing unit, wherein the memory stores programming instructions that, when executed by the processing unit, cause the processing unit to (a) receive display preferences regarding at least one of a multiple displays; (b) determine whether the display preferences can be fulfilled in observance of at least one of: configuration properties of the at least one of the multiple displays and
10 configuration properties of a computing system; and (c) configure the computing system and the at least one of the multiple displays in accordance with the display preferences when the display preferences can be fulfilled.

25. The video graphics processing circuit of claim 24, wherein the memory further
15 comprises programming instructions that cause the processing unit to:

determine whether a current configuration of the multiple displays to the computing system can be reconfigured such that the display preferences can be fulfilled while maintaining effective configuration of the current configuration when the display
20 preferences cannot be fulfilled; and

reconfigure operable coupling of the multiple displays to the computing system such that the at least one of the multiple displays is configured in accordance with the display preferences when the current configuration can be reconfigured.

25 26. The video graphics processing circuit of claim 24, wherein the memory further comprises programming instructions that cause the processing unit to operably couple a display controller of the computing system to the at least one of the multiple displays, wherein the display controller provides display data to the at least one of the multiple
30 displays.

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Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099
1990	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099

second means for storing programming instructions that cause the processing unit to determine whether the display preferences can be fulfilled in observance of at least one of: configuration properties of the at least one of the multiple displays and configuration properties of the computing system; and

34. The digital storage medium of claim 33 further comprises means for storing programming instructions that cause the processing unit to:

20 determine whether a current configuration of the multiple displays to the computing system can be reconfigured such that the display preferences can be fulfilled while maintaining effective configuration of the current configuration when the display preferences cannot be fulfilled; and

25 reconfigure operable coupling of the multiple displays to the computing system such that
the at least one of the multiple displays is configured in accordance with the display
preferences when the current configuration can be reconfigured.

35. The digital storage medium of claim 33 further comprises means for storing
30 programming instructions that cause the processing unit to operably couple a display

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38. The digital storage medium of claim 33 further comprises means for storing programming instructions that cause the processing unit to operably couple a first display controller of the computing system to a first display of the at least one of the multiple displays and operably coupling a second display controller of the computing system to a second display of the least one of the multiple displays.

39. The digital storage medium of claim 38 further comprises means for storing programming instructions that cause the processing unit to operably couple the first display controller to a third display of the at least one of the multiple displays.

40. The digital storage medium of claim 33 further comprises means for storing programming instructions that cause the processing unit to operably couple a first display controller of the computing system to a first display of the at least one of the multiple displays, operably coupling a second display controller of the computing system to a second display of the at least one of the multiple displays, and operably coupling the first and second display controllers to a screen memory.

41. The digital storage medium of claim 40 further comprises means for storing programming instructions that ~~cause the processing unit to operably couple at least two of the multiple displays to one of a plurality of screen memories.~~

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